

MC Track Matching

- In the DST most of the reconstructed tracks are reported as having *no* matching MC track (trk->mcindex = -1) even though..
- In the reconstruction stage, the MC Matching function claims to have found matches
- This happens for >75% of the tracks
- Diagnostics on an example shown below

Matches Found in MCTruth/MCMatch.cxx	
Run 30015706.1, Event 2, # Matches = 2	
MC Truth	Reco
# Tracks = 19	# Tracks = 2
Track 1 $p(-0.0014, -0.0272, 0.7659)$	Track 3 $p(-0.0004, -0.0276, 0.7425)$
Track 2 $p(0.0062, 0.0315, 119.243)$	Track 2 $p(0.001, 0.0194, 121.847)$

In DST	
Run 30015706.1, Event 1	
MC Truth	DST
# Tracks = 19	# Tracks = 2
Track 1 $p(-0.0014, -0.0272, 0.7659)$	Track 2 $p(-0.0004, -0.0276, 0.7425)$ <i>trk->mcindex = -1</i>
Track 2 $p(0.0062, 0.0315, 119.243)$	Track 1 $p(0.001, 0.0194, 121.847)$ <i>trk->mcindex = -1</i>

- FillEventSummary seems to know correctly the number of matches, but the flag is not getting set for the matched tracks.
- Suspect the problem is with the track numbering in MCMatch.

MC Processing on the Grid

- All the NuMI MC runs have been run on the grid.
- *However*, looking at the log files, I see that ~50% of the jobs are failing with an error pointing to the CkovDigitizer:
 void CkovDigitizer::CreatePIDMap(std::vector<const MCCParticle*, std::allocator<const MCCParticle*> >&): Assertion `g3code != 0' failed.
- Some subruns fail right away and some fail deep into the processing. This will have to be fixed and re-run.